

1 1. (twice amended) Method for the preparation of a vaccine for immunization of humans
2 and animals against tumor cells comprising the steps of:
3 a) isolating autologous tumor cells;
4 b) treating the tumor cells to prevent the survival thereof following reinfusion;
5 c) incubating the thus treated tumor cells with intact heterologous bispecific antibodies
6 showing the following properties:
7 α - binding to a T cell;
8 β - binding to at least one antigen on a tumor cell;
9 γ - binding, by their Fc portion to Fc receptor-positive cells capable of activating the
10 Fc receptor-positive cell whereby the expression of cytokines, co-stimulatory
11 antigens or both is induced or increased, wherein the bispecific antibodies are
12 members selected from the group consisting of the following isotype
13 combinations:
14 rat-IgG2b/human-IgG1,
15 rat-IgG2b/human-IgG2,
16 rat-IgG2b/human-IgG3[oriental allotype G3m(st) = binding to protein A],
17 rat-IgG2b/human-IgG4;
18 rat-IgG2b/rat-IgG2c;
19 mouse-IgG2a/human-IgG3[caucasian allotypes G3m(b+g) = no binding to protein
20 A, in the following indicated as *]
21 mouse-IgG2a/mouse-[VH-CH1,VL-CL]-human-IgG1-[hinge]-
22 human-IgG3*- [CH2-CH3]
23 mouse-IgG2a/rat-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human- IgG3*- [CH2-
24 CH3]

25 mouse-IgG2a/human-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG3*-
26 [CH2-CH3]

27 mouse-[VH-CH1,VL-CL]-human-IgG1/rat-[VH-CH1,VL-CL]-
28 human-IgG1-[hinge]-human-IgG3*-[CH2-CH3]

29 mouse-[VH-CH1,VL-CL]-human-IgG4/rat-[VH-CH1,VL-CL]-human-IgG4-
30 [hinge]-human-IgG4[N-terminal region of CH2]-human-IgG3*[C-terminal region
31 of CH2: > aa position 251]-human-IgG3*[CH3]

32 rat-IgG2b/mouse-[VH-CH1,VL-CL]-human-IgG1-[hinge-CH2-CH3]

33 rat-IgG2b/mouse-[VH-CH1,VL-CL]-human-IgG2-[hinge-CH2-CH3]

34 rat-IgG2b/mouse-[VH-CH1,VL-CL]-human-IgG3-[hinge-CH2-CH3, oriental
35 allotype]

36 rat-IgG2b/mouse-[VH-CH1,VL-CL]-human-IgG4-[hinge-CH2-CH3]

37 human-IgG1/human-[VH-CH1,VL-CL]-human-IgG1-[hinge]-
38 human-IgG3*-[CH2-CH3]

39 human-IgG1/rat-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG4[N-
40 terminal region of CH2]-human-IgG3*[C-terminal region of CH2 : > aa position
41 251]-human-IgG3*[CH3]

42 human-IgG1/mouse-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG4[N-
43 terminal region of CH2]-human-IgG3*[C-terminal region of CH2 : > aa position
44 251]-human-IgG3*[CH3]

45 human-IgG1/rat-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG2[N-
46 terminal region of CH2]-human-IgG3*[C-terminal region of CH2 : > aa position
47 251]-human-IgG3*[CH3]

48 human-IgG1/mouse-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG2[N-
49 terminal region of CH2]-human-IgG3*[C-terminal region of CH2 : > aa position
50 251]-human-IgG3*[CH3]

51 human-IgG1/rat-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG3*-[CH2-
52 CH3]

53 human-IgG1/mouse-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG3*-
54 [CH2-CH3]

55 human-IgG2/human-[VH-CH1,VL-CL]-human-IgG2-[hinge]-human-IgG3*-[
56 CH2-CH3]

57 human-IgG4/human-[VH-CH1,VL-CL]-human-IgG4-[hinge]-human-IgG3*-
58 [CH2-CH3]

59 human-IgG4/human-[VH-CH1,VL-CL]-human-IgG4-[hinge]-human-IgG4[N-
60 terminal region of CH2]-human-IgG3*[C-terminal region of CH2 : > aa position
61 251]-human-IgG3*[CH3]

62 mouse-IgG2b/rat-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG3*-[CH2-
63 CH3]

64 mouse-IgG2b/human-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG3*-
65 [CH2-CH3]

66 mouse-IgG2b/mouse-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG3*-
67 [CH2-CH3]

68 mouse-[VH-CH1,VL-CL]-human-IgG4/rat-[VH-CH1,VL-CL]-human-IgG4-[
69 [hinge]-human-IgG4-[CH2]-human-IgG3*-[CH3]

70 human-IgG1/rat-[VH-CH1,VL-CL]-human-IgG1-[hinge]-human-IgG4-[CH2]-
71 human-IgG3*-[CH3]